

2000 SG344: The Story of a Potential Earth Impactor

P.W. Chodas, S.R. Chesley (JPL/Caltech)

In October 2000, the small object denoted 2000 SG344 was found to have a remarkably high 1-in-500 chance of colliding with the Earth in the year 2030. This probability placed the object in Category 1 on the Torino Impact Hazard Scale, despite the object's small 30-70 meter size. Pre-discovery observations subsequently ruled out the possibility of collision in 2030, but there remains a 1-in-1000 chance of collision in the 2070s. Dynamical and collisional lifetime arguments suggest that the object originated from within the Earth-Moon system. With its very Earth-like orbit, 2000 SG344 is an obvious candidate to be a space probe or rocket stage. A straightforward backward integration of the SG344 orbit brings the object close to the Earth in both February and July of 1971. A few possible linkages to man-made objects are proposed.